APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/273,673	03/22/1999	JOHN C. DOYLE	DOYLE-P99-1	7424

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EXAMINER
GRAHAM, CLEMENT B

ART UNIT	PAPER NUMBER
3628	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/273,673	DOYLE, JOHN C.
	Examiner	Art Unit	
	Clement B. Graham	3628	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 October 2005</u>.

2a)☒ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18 and 20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18 and 20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-18, 20, remained pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or
described as set forth in section 102 of this title, if the differences between the subject
matter sought to be patented and the prior art are such that the subject matter as a
whole would have been obvious at the time the invention was made to a person having
ordinary skill in the art to which said subject matter pertains. Patent ability shall not be
negatived by the manner in which the invention was made.

3.   Claims 1- 18, and 20, are rejected under 35 U.S.C. 103(a) as being unpatentable

over Hawkins et al (Hereinafter Hawkins U.S Patent 6,247, 000) in view of Daughtery

U.S. Pub" 2001/0056392 in view of Mosler et al U.S Patent 6, 304, 858.

As per claims 1, 3,   Hawkins discloses a method for using a digital electrical

computer in convex futures contract clearing, the method including the steps of:

providing a clearing computer system including a digital electrical "signals" computer

having a processor electrically connected to an input device for receiving input

information and producing input electrical signals representing the input information, to

an output device for producing a display corresponding to output electrical signals, and

to a printer device for printing corresponding to the output electrical signals (see

column 7 line 1-65 and column 8 lines 1-65) and programming the processor to form

circuitry in the processor to control the computer system in signal processing responsive

to the input electrical signals to produce other electrical signals including the output

electrical signals, in data processing substeps of:

identification of a buyer of the convex futures contract (see column 9 lines 35-49)

identification of a seller of the convex futures contract, a trade price for the convex

futures contract, and a settlement price for the convex futures contract (see column 9

lines 35-49)

specifying an amount of money a clearing entity must transfer between the buyer and the seller for clearing the convex futures contract by applying the actual tick value to a difference between the trade price data and the settlement price (see column 11 line 7 column 12 line 60) and triggering a computer-assisted transfer of the amount of money; and futures contract. (see column 12 line 46 and column 14 line 8).

Hawkins fail to explicitly teach receiving, as a portion of the input information, a base tick value for a convex futures contract, an expiration time for the convex futures contract, and computing a discount factor from the settlement price and determining an actual tick value by applying the discount factor to the base tick value.

However Daughtery discloses a forward rate agreement futures contract is an equivalent of an option contract and a variety of other financial instruments or contracts (see page 12 paragraph 0177-0239) and receiving, as a portion of the input information, a base tick value for a convex futures contract (see page 9 paragraph 0128 lines 3-8 also tick "variable" (paragraph 128) "dollar amount tick and tick data" and a definition of tick as dollar amount price movement" (see paragraph 0130) and an expiration time for the forward rate agreement futures contract.(see page 9 paragraph 0127 lines 4-5).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hawkins and Daughtery in order to introduce increase efficiencies and greater capabilities to produce greater profit opportunities in the operation of automated computerized futures trading systems.

Hawkins and Daughtery fail to explicitly teach computing a discount factor from the settlement price determining an actual tick value by applying the discount factor to the base tick value.

However Mosler discloses computing a discount factor from the settlement price (see column 7 lines 35-50 and column 31 lines 33-34) and determining an actual tick value by applying the discount factor to the base tick value. (see column 15 lines 29-34 and column 23 lines 16-17 and 48-50).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Daughtery and Mosler in order to

introduce increase efficiencies and greater capabilities to produce greater profit
opportunities in the operation of automated computerized futures trading systems.
Further industry practitioners in futures and options trading processing understand that
a "tick" (is) ' a minimum change in price up or down (Barron's Dictionary of finance and
investment terms fifth edition, page 647).

As per claim 2, Hawkins discloses wherein the substep of computing a discount
factor includes the substep of applying a bootstrap method to the settlement price.(see
column 14 line 43 and column 16 line 67).

As per claim4, Hawkins discloses further including the substeps of: generating a
cumulative price quote for a group including another convex futures contract (see
column 17 line 24 and column 18 line 55) and displaying the cumulative price quote on
the display device to convey information for use in trading the group.(see column 18
lines 44-67).

As per claim 5, Hawkins discloses wherein:
generating a price for an floor option on the convex futures contract (see column 17 line
24 and column 18 line 55) displaying the price for the floor option on the display device
to convey information for use in trading the floor option.((see column 18 lines 44-67).

As per claim 6, Hawkins discloses wherein the step of generating a price includes
accounting for a limit, the limit from the group consisting of a cap, a floor, or both, in
generating the price.(see column 17 line 24 and column 20 line 24).

As per claim 7, Hawkins discloses further including:
communicating data representing the convex futures contract from the clearing
computer system to a second digital electrical computer system (see column 20 line 25
and column 2 line 19) using the data in computing a price for an over-The-Counter
option. (see column 21 line 9 and column 22 line 49).

As per claim 8, Hawkins discloses wherein the forming an interest rate swap
including the convex futures contract includes, computing interest payments for the
interest rate swap with the second computer. (see column 21 line 9 and column 22 line
58).

As per claim 9, Hawkins discloses further including:

communicating data representing the convex futures contract from the clearing computer system to an other digital electrical computer system (see column 20 line 25 and column 22 line 19) and computing, with the other digital electrical computer system, a zero coupon libor curve in real time and applying the zero coupon libor curve to a portfolio of interest rate derivatives to create forward rates, expected cash flows, and present value of the cash flows for risk management manipulation of the portfolio. (see column 14 line 27 and column 16 line 56).

As per claim 10, Hawkins discloses further including:
calculating, with the other digital electrical computer system, an exposure indicia of movement in the curve.(see column 16 line 24 and column 18 line 43).

As per claim 11, Hawkins discloses further including:
publishing daily quotes of the discount factor by clearing digital electrical computer system to provide information for use in trading the convex futures contract.(see column 20 line 25 and column 22 line 19).

As per claim 12, Hawkins discloses wherein:
publishing trading discount factor data in real time on a display board electronically connected to the clearing digital electrical computer system to provide information for use in trading the convex futures contract. (see column 17 line 24 and column 20 line 24).

As per claim 13, Hawkins discloses wherein:
conveying trading discount factor data in real time to a plurality of vendor computers electrically connected to the clearing digital electrical computer system to provide information for use in trading the convex futures contract.(see column 20 line 25 and column 22 line 19).

As per claim 14, Hawkins discloses wherein:
conveying trading discount factor data in real time to a plurality of broker computers electrically connected to the clearing digital electrical computer system to provide information for use in trading the convex futures contract. (see column 21 line 9 and column 2 line 58).

As per claim 15, Hawkins discloses wherein:

conveying trading discount factor data in real time to a plurality of customer computers electrically connected to the clearing digital electrical computer system to provide information for use in trading the convex futures contract (see column 15 line 6 and column 18 line 7) and in response to a trade triggered from one of the customer computers, generating confirmation statement at the clearing digital electrical computer to document the trade triggered from one of the customer computers. (see column 17 line 6 and column 19 line 15).

As per claims 16, 18, 20, Hawkins discloses a method for using a digital electrical computer in convex 'futures contract clearing, the method including the steps of: providing a clearing computer system including a digital electrical "signals" computer having a processor electrically connected to an input device for receiving input information and producing input electrical signals representing the input information, to an output device for producing a display corresponding to output electrical signals, and to a printer device for printing corresponding to the output electrical signals (see column 7 line 1-65 and column 8 lines 1-65) and
programming the processor to form circuitry in the processor to control the computer system in signal processing responsive to the input electrical signals to produce other electrical signals including the output electrical signals, in data processing substeps of: identification of a buyer of the convex futures contract (see column 9 lines 35-49) identification of a seller of the convex futures contract, a trade price for the convex futures contract, and a settlement price for the convex futures contract (see column 9 lines 35-49)
specifying an amount of money a clearing entity must transfer between the buyer and the seller for clearing the convex futures contract by applying the actual tick value to a difference between the trade price data and the settlement price (see column 11 line 7 column 12 line 60) and triggering a computer-assisted transfer of the amount of money; and futures contract. (see column 12 line 46 and column 14 line 8) and generating at the printing device documentation including the amount of money specified by the clearing computer system to be transferred between the buyer and seller in the convex futures contract.(see column 14 line 9 and column 15 line 22).

Hawkins fail to explicitly teach receiving, as a portion of the input information, a base tick value for a convex futures contract, an expiration time for the convex futures contract, and computing a discount factor from the settlement price and determining an actual tick value by applying the discount factor to the base tick value.

However Daughtery discloses a forward rate agreement futures contract is an equivalent of an option contract and a variety of other financial instruments or contracts (see page 12 paragraph 0177-0239) and receiving, as a portion of the input information, a base tick value for a convex futures contract (see page 9 paragraph 0128 lines 3-8 also tick "variable" (paragraph 128) "dollar amount tick and tick data" and a definition of tick as dollar amount price movement" (see paragraph 0130) and an expiration time for the forward rate agreement futures contract.(see page 9 paragraph 0127 lines 4-5).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Hawkins and Daughtery in order to introduce increase efficiencies and greater capabilities to produce greater profit opportunities in the operation of automated computerized futures trading systems. Hawkins and Daughtery fail to explicitly teach computing a discount factor from the settlement price determining an actual tick value by applying the discount factor to the base tick value.

However Mosler discloses computing a discount factor from the settlement price (see column 7 lines 35-50 and column 31 lines 33-34) and determining an actual tick value by applying the discount factor to the base tick value. (see column 15 lines 29-34 and column 23 lines 16-17 and 48-50).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Daughtery and Mosler in order to introduce increase efficiencies and greater capabilities to produce greater profit opportunities in the operation of automated computerized futures trading systems. Further industry practitioners in futures and options trading processing understand that a "tick" (is) ' a minimum change in price up or down (Barron's Dictionary of finance and investment terms fifth edition, page 647).

As per claim 17, Hawkins discloses wherein the substep of computing a

discount factor includes applying a bootstrap method to the settlement price.(see
column 14 line 43 and column 16 line 67).

<div align="center">

Conclusion

Response to Arguments

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4. Applicant 's arguments filed on 10/07/2005 has been considered but they are not
persuasive for the following reasons.

5.   In response to applicant's arguments as it pertains to Hawkins, Daughtery and
Mosler fail to teach or suggest "computing a discount factor from the settlement price
and determining an actual tick value by applying the discount factor to the base tick
value and providing a clearing computer system including a digital electrical computer
having a processor electrically connected to an input device for receiving input
information and producing input electrical signals representing the input information, to
an output device for producing a display corresponding to output electrical signals, and
to a printer device for printing corresponding to the output electrical signals and
programming the processor to form circuitry in the processor to control the computer
system in signal processing responsive to the input electrical signals to produce other
electrical signals including the output electrical signals, in data processing identification
of a buyer of the convex futures contract identification of a seller of the convex futures
contract, a trade price for the convex futures contract, and a settlement price for the
convex futures contract specifying an amount of money a clearing entity must transfer
between the buyer and the seller for clearing the convex futures contract by applying
the actual tick value to a difference between the trade price data and the settlement
price and triggering a computer-assisted transfer of the amount of money; and futures
contract and receiving, as a portion of the input information, a base tick value for a
convex futures contract, an expiration time for the convex futures contract, and
computing a discount factor from the settlement price and determining an actual tick
value by applying the discount factor to the base tick value and a forward rate
agreement futures contract is an equivalent of an option contract and a variety of other
financial instruments or contracts and receiving, as a portion of the input information, a
base tick value for a convex futures contract dollar amount tick and tick data" and a

definition of tick as dollar amount price movement and an expiration time for the forward rate agreement futures contract" these limitations were addressed in a combinations of teachings as stated.

However Hawkins discloses providing a clearing computer system including a digital electrical "signals" computer having a processor electrically connected to an input device for receiving input information and producing input electrical signals representing the input information, to an output device for producing a display corresponding to output electrical signals, and to a printer device for printing corresponding to the output electrical signals see column 7 line 1-65 and column 8 lines 1-65 and programming the processor to form circuitry in the processor to control the computer system in signal processing responsive to the input electrical signals to produce other electrical signals including the output electrical signals, in data processing substeps of identification of a buyer of the convex futures contract see column 9 lines 35-49 identification of a seller of the convex futures contract, a trade price for the convex futures contract, and a settlement price for the convex futures contract see column 9 lines 35-49 specifying an amount of money a clearing entity must transfer between the buyer and the seller for clearing the convex futures contract by applying the actual tick value to a difference between the trade price data and the settlement price see column 11 line 7 column 12 line 60 and triggering a computer-assisted transfer of the amount of money; and futures contract. see column 12 line 46 and column 14 line 8.

Daughtery discloses a forward rate agreement futures contract is an equivalent of an option contract and a variety of other financial instruments or contracts see page 12 paragraph 0177-0239 and receiving, as a portion of the input information, a base tick value for a convex futures contract see page 9 paragraph 0128 lines 3-8 also tick "variable" paragraph 128) "dollar amount tick and tick data" and a definition of tick as dollar amount price movement" see paragraph 0130 and an expiration time for the forward rate agreement futures contract. see page 9 paragraph 0127 lines 4-5.

Mosler discloses computing a discount factor from the settlement price see column 7 lines 35-50 and column 31 lines 33-34 and determining an actual tick value by applying

the discount factor to the base tick value. see column 15 lines 29-34 and column 23
lines 16-17 and 48-50.

Therefore it is obviously clear that Applicant's claimed limitations were addressed within
the teachings of Hawkins, Daughtery and Mosler.

6.   With respect to Applicant's argument, Examiner respectfully submits that
obviousness is not determined on the basis of the evidence as a whole and the
relative persuasiveness of the arguments. See In re Oetiker, 977F. 2d 1443, 1445,24
USPQ2d 1443, 1444 (Fed. Cir. 1992); In re Hedges, 783F.2d 1038, 1039, 228 USPQ*
685, 686 (Fed. Cir.1992); In re Piaseckii, 745 F.2d 1468, 1472, 223 USPQ 785, 788
(Fed. Cir.1984); In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA
1976). Using this standard, the Examiner respectfully submits that he has at least
satisfied the burden of presenting a prima facie case of obviousness, since he has
presented evidence of corresponding claim elements in the prior art and has expressly
articulated the combinations and the motivations for combinations that fairly suggest
Applicant's claimed invention (See paper number 10). Note, for example, in the instant
case, the Examiner respectfully notes that each and every motivation to combine the
applied references are accompanied by select portions of the respective reference(s)
which specially support that particular motivation and /or an explanation based on the
logic and scientific reasoning of one ordinarily skilled in the art at the time of the
invention that support a holding of obviousness. As such, it is not seen that the
Examiner's combination of references is unsupported by the applied prior art of record.
Rather, it is respectfully submitted that explanation based on the logic and scientific
reasoning of one of ordinarily skilled in the art at the time of the invention that support
a holding of obviousness has been adequately provided by the motivations and
reasons indicated by the Examiner, Ex pane Levengood, 28 USPQ2d 1300(Bd. Pat.
App &.,4/293 Therefore the combination of reference is proper and the rejection is
maintained.

7.   **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time
policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clement B Graham whose telephone number is 703-305-1874. The examiner can normally be reached on 7am to 5pm.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clement B Graham whose telephone number is 703-305-1874. The examiner can normally be reached on 7am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S. Sough can be reached on 703-308-0505. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-0040 for regular communications and 703-305-0040 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

CG

January 7, 2006